

REMARKS

This paper is responsive to the Office Action mailed October 6, 2003. Applicants filed a Response on January 6, 2004. Applicants now submit this supplemental response to further clarify their remarks presented in the previous Response.

Supplemental Response to issues presented under 35 U.S.C. §103(a)

Claims 18 and 31 stand rejected under 35 U.S.C. §103(a) as unpatentable over Muller et al., U.S. Pat. No. 6,084,091. Specifically, the Examiner contends that Muller et al. teaches:

"the method as described above, but also teach various polymer carriers as well, such as polyvinylidene chloride, polyethylene, polypropylene and polyethylene, for example. See page 8. Muller et al. fail to teach the specific polymer polyvinylpyrrolidone."

"It would have been obvious to one of skill in the art at the time the invention was made to **use polyvinylpyrrolidone as a carrier in the present method**. Muller et al. teach a variety of anionic polymers which can have modified with functional groups for use in the present method. Polyvinylpyrrolidone is a known anionic polymer. **One of skill in the art would have been motivated to use this polymer in the present method because it shares qualities and characteristics of those already disclosed by Muller et al.** Moreover, it is well within the purview of the ordinary skilled artisan to modify amounts and concentrations of known substances such as carriers, salts or pH. Thus, one of skill in the art would have been motivated to optimize the amounts of polyvinylpyrrolidone carrier in the method. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made." (Office Action, page 4, emphasis added.)

Applicants had previously pointed out that Muller et al. teach the use of synthetic polymers such as polyvinylidene fluoride (which the Examiner considers to be an equivalent to polyvinylpyrrolidone) as organic carrier substances, not as a phenol-neutralizing substances as disclosed in the present application. **Applicants wish to clarify for the record that the polymers disclosed in the Muller et al. patent are insoluble in water and thereby serve as carrier particles with optionally modified surfaces for binding the nucleic acids (see, column 4, lines 49-65 of the '091 patent). In contrast, Applicants**

teach the use of polyvinylpyrrolidone, which is soluble in water and therefore is able to act as a complexing agent for phenols in solution. Polyvinylpyrrolidone does not act a carrier particle.

Accordingly, it is clear that a person skilled in the art would not be motivated to substitute polyvinylpyrrolidone as a carrier in the Muller et al. method because the skilled artisan would recognize that polyvinylpyrrolidone cannot act as a carrier for binding and purifying nucleic acids, nor can the polymers disclosed in Muller et al. be used as complexing agents in solution.

Therefore, since the Muller et al. patent fails to disclose or suggest the presently claimed invention of Claims 15 and 28, that reference cannot sustain an obviousness rejection under 35 U.S.C. §103(a). Moreover, because independent Claims 15 and 28 (from which Claims 18 and 31 ultimately depend) are non-obvious, Claims 18 and 31 cannot be found obvious under 35 U.S.C. §103 as a matter of law. MPEP §2143.03.

Although the remarks above are particularly relevant to the issues presented under 35 U.S.C. §103, Applicants believe that the above comments are relevant to the issues raised under obviousness-type double patenting and 35 U.S.C. §102(b) as well.

In view of the foregoing remarks, reconsideration and allowance of the claims as amended are respectfully requested.

Respectfully submitted,



Leon R. Yankwich, Registration No. 30,237
Michael R. Wesolowski, Registration No. 50,944
Attorneys for Applicants
YANKWICH & ASSOCIATES
201 Broadway
Cambridge, Massachusetts 02139
telephone: 617-374-3700
telecopier: 617-374-0055



CERTIFICATE OF MAILING PURSUANT TO 37 C.F.R. §1.10

The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee" service under 37 C.F.R. § 1.10 on the date indicated below and are addressed to: Mail Stop Non-Fee Amendment, Commissioner for Patents, P.O Box 1450, Alexandria, VA 22313-1450.

Express Mail # **EV326917328US**

March 5, 2004
date of mailing

Stephanie L. Leicht
Stephanie L. Leicht